

S/N 10/585,199

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NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	APR 04	STN AnaVist, Version 1, to be discontinued
NEWS	3	APR 15	WPIDS, WPINDEX, and WPIX enhanced with new predefined hit display formats
NEWS	4	APR 28	EMBASE Controlled Term thesaurus enhanced
NEWS	5	APR 28	IMSRESEARCH reloaded with enhancements
NEWS	6	MAY 30	INPAFAMDB now available on STN for patent family searching
NEWS	7	MAY 30	DGENE, PCTGEN, and USGENE enhanced with new homology sequence search option
NEWS	8	JUN 06	EPFULL enhanced with 260,000 English abstracts
NEWS	9	JUN 06	KOREAPAT updated with 41,000 documents
NEWS	10	JUN 13	USPATFULL and USPAT2 updated with 11-character patent numbers for U.S. applications
NEWS	11	JUN 19	CAS REGISTRY includes selected substances from web-based collections
NEWS	12	JUN 25	CA/CAPplus and USPAT databases updated with IPC reclassification data
NEWS	13	JUN 30	AEROSPACE enhanced with more than 1 million U.S. patent records
NEWS	14	JUN 30	EMBASE, EMBAL, and LEMBASE updated with additional options to display authors and affiliated organizations
NEWS	15	JUN 30	STN on the Web enhanced with new STN AnaVist Assistant and BLAST plug-in
NEWS	16	JUN 30	STN AnaVist enhanced with database content from EPFULL
NEWS	17	JUL 28	CA/CAPplus patent coverage enhanced
NEWS	18	JUL 28	EPFULL enhanced with additional legal status information from the epline Register
NEWS	19	JUL 28	IFICDB, IFIPAT, and IFIUDB reloaded with enhancements
NEWS	20	JUL 28	STN Viewer performance improved
NEWS	21	AUG 01	INPADOCDB and INPAFAMDB coverage enhanced
NEWS	22	AUG 13	CA/CAPplus enhanced with printed Chemical Abstracts page images from 1967-1998
NEWS	23	AUG 15	CAOLD to be discontinued on December 31, 2008
NEWS	24	AUG 15	CAPplus currency for Korean patents enhanced
NEWS	25	AUG 25	CA/CAPplus, CASREACT, and IFI and USPAT databases enhanced for more flexible patent number searching
NEWS	26	AUG 27	CAS definition of basic patents expanded to ensure comprehensive access to substance and sequence information
NEWS	27	SEP 18	Support for STN Express, Versions 6.01 and earlier, to be discontinued
NEWS	28	SEP 25	CA/CAPplus current-awareness alert options enhanced

[illegible]

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FILE 'HOME' ENTERED AT 15:40:09 ON 01 OCT 2008

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=> set plurals on perm
SET COMMAND COMPLETED
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COST IN U.S. DOLLARS

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.42

FILE 'USPATOLD' ENTERED AT 15:41:02 ON 01 OCT 2008  
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 15:41:02 ON 01 OCT 2008  
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 15:41:02 ON 01 OCT 2008  
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FILE 'JAPIO' ENTERED AT 15:41:02 ON 01 OCT 2008  
COPYRIGHT (C) 2008 Japanese Patent Office (JPO)- JAPIO

```
=> s (hydrogen(8a)deactivat?)(s)(metallocen? or titanocen? or zirconocen? or hafnocen?)
```

S/N 10/585,199

L1 3 (HYDROGEN(8A) DEACTIVAT?)(S)(METALLOCEN? OR TITANOCEN? OR ZIRCON  
OCEN? OR HAFNOCEN?)

=> d 11 1-3 ibib abs

L1 ANSWER 1 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2001:63800 USPATFULL

TITLE: Olefin polymerization catalyst system, producing and  
using it

INVENTOR(S): Andell, Ove S., Merikorttitie, Finland  
Hokkanen, Harri, Ketokiventie, Finland  
Mustonen, Marja, Riistatie, Finland

PATENT ASSIGNEE(S): Borealis Technology Oy, Porvoo, Finland (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6225423	B1	20010501
	WO 9727224		19970731
APPLICATION INFO.:	US 1998-101869		19980921 (9)
	WO 1997-FI34		19970124
			19980921 PCT 371 date
			19980921 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	FI 1996-363	19960126
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wu, David W.	
ASSISTANT EXAMINER:	Harlan, R.	
LEGAL REPRESENTATIVE:	Birch, Stewart, Kolasch & Birch, LLP	
NUMBER OF CLAIMS:	35	
EXEMPLARY CLAIM:	18	
LINE COUNT:	1112	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a novel olefin polymerization catalyst system comprising a reaction product of a transition metal compound. A stable and active single active site catalyst is obtained by producing said reaction product by:

(I) contacting in an organic solvent the following reactive components

(a) a transition metal compound, which is at least partially soluble in the organic solvent and contains in its molecule at least one organic group and a transition metal chosen from periods 4-7 and groups 3-10 of the Periodic Table (IUPAC 1990), and

(b) 0.05-500 moles of an unsaturated organic compound per mole of transition metal of the transition metal compound, which unsaturated organic compound is at least partially soluble in the organic solvent, has in its molecule 2-30 carbon atoms and at least one terminal double bond,

to obtain a reaction product dissolved in the organic solvent; and

(II) recovering the reaction product of the transition metal compound.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

S/N 10/585,199

L1 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:42501 CAPLUS  
DOCUMENT NUMBER: 130:96772  
TITLE: Process and titanocene catalysts for hydrogenating  
conjugated diene polymer  
INVENTOR(S): Miyamoto, Koichi; Kitagawa, Yuichi; Sasaki, Sigeru  
PATENT ASSIGNEE(S): Asahi Kasei Kogyo Kabushiki Kaisha, Japan  
SOURCE: Eur. Pat. Appl., 15 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 889057	A1	19990107	EP 1997-117497	19971009
EP 889057	B1	20030108		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11071426	A	19990316	JP 1997-252180	19970917
JP 3362110	B2	20030107		
US 5886108	A	19990323	US 1997-947462	19971009
ES 2185855	T3	20030501	ES 1997-117497	19971009
ZA 9709111	A	19980511	ZA 1997-9111	19971010
PRIORITY APPLN. INFO.:			JP 1997-174469	A 19970630

OTHER SOURCE(S): MARPAT 130:96772

AB The title process for hydrogenating a conjugated diene polymer comprises the steps of: deactivating a conjugated diene polymer which is prepared by using an organic alkali metal compound as a polymerization initiator by adding

a deactivator; and contacting the deactivated diene polymer with hydrogen in an inert hydrocarbon solvent to hydrogenate the double bond of the deactivated diene polymer, wherein the hydrogenation is carried out (i) in the presence of a titanocene catalyst under specified conditions. Styrene-butadiene triblock copolymer was hydrogenated using titanocene dichloride and Me<sub>3</sub>Al catalysts.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:194860 CAPLUS  
DOCUMENT NUMBER: 128:283101  
ORIGINAL REFERENCE NO.: 128:56047a,56050a  
TITLE: Hydrogen transfer reactions of supported metallocene catalysts  
AUTHOR(S): Kaminsky, Walter; Strubel, Christian  
CORPORATE SOURCE: Institut fur Technische und Makromolekulare Chemie, Universitat Hamburg, Hamburg, 20146, Germany  
SOURCE: Journal of Molecular Catalysis A: Chemical (1998), 128(1-3), 191-200  
CODEN: JMCCF2; ISSN: 1381-1169  
PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The evolution of methane from methylaluminoxane (MAO) solns. is enhanced in the presence of homogeneous metallocenes. This reaction serves as a model for the deactivation of metallocene catalysts. By supporting different metallocenes on a silica/MAO carrier the deactivation reaction by  $\alpha$ -hydrogen transfer among

metallocene active sites and aluminum alkyls can be suppressed. The suppression of  $\alpha$ -hydrogen transfer is proven for different Al/Zr ratios and by near independence of the polymerization activity on the catalyst aging time, after reaching maximum activity. Aluminum alkyls and MAO leach Cp<sub>2</sub>ZrCl<sub>2</sub> from the carrier, the leached metallocene is only active in polymerization if MAO is present.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 11 1 ibib hit

L1 ANSWER 1 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2001:63800 USPATFULL

TITLE: Olefin polymerization catalyst system, producing and using it

INVENTOR(S): Andell, Ove S., Merikorttitie, Finland  
Hokkanen, Harri, Ketokiventie, Finland  
Mustonen, Marja, Riistatie, Finland

PATENT ASSIGNEE(S): Borealis Technolgy Oy, Porvoo, Finland (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6225423	B1	20010501
	WO 9727224		19970731
APPLICATION INFO.:	US 1998-101869		19980921 (9)
	WO 1997-FI34		19970124
			19980921 PCT 371 date
			19980921 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	FI 1996-363	19960126
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wu, David W.	
ASSISTANT EXAMINER:	Harlan, R.	
LEGAL REPRESENTATIVE:	Birch, Stewart, Kolasch & Birch, LLP	
NUMBER OF CLAIMS:	35	
EXEMPLARY CLAIM:	18	
LINE COUNT:	1112	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Homogenous Ziegler-Natta catalyst systems based on metallocenes form a group of their own in the art. They usually comprise a  $\pi$ -cyclopentadiene complex of a transition metal, such as titanium or zirconium, and a synergistically functioning organoaluminium complex, such as alkyl aluminium or aluminium oxane (aluminoxane, alumoxane), which is a reaction product of alkyl aluminium and water. Characteristic to these homogenous catalyst systems is a medium polymerizing activity, a narrow molecular weight distribution of the polymer product and that the activity of the catalyst systems is rapidly lost. The deactivation of the catalyst system has been studied using kinetic and spectroscopic methods. It was possible to demonstrate that the part that was active in the polymerization of ethylene comprised the transition metal in oxidation state +IV. The short life time of the active part is thought to be due to rapid deactivation processes, such as alkyl exchange, hydrogen exchange reaction and reduction reactions. See S. S. Reddy and S. Siwaram, Prog. Polym. Sci. 20 (1995), 313.

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=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	32.66	33.08
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.60	-1.60

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Sep 26, 2008 (20080926/UP).

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.48	33.56
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.60

FILE 'USPATFULL' ENTERED AT 15:49:28 ON 01 OCT 2008  
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CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 15:49:28 ON 01 OCT 2008  
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FILE 'CAPLUS' ENTERED AT 15:49:28 ON 01 OCT 2008  
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FILE 'JAPIO' ENTERED AT 15:49:28 ON 01 OCT 2008  
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=> s deactivat?(8a)(metalloccen? or titanocen? or zirconocen? or hafnocen?)

L2 215 DEACTIVAT?(8A)(METALLOCCEN? OR TITANOCEN? OR ZIRCONOCEN? OR HAFNO  
CEN?)

=> s polymeri?(s)(metalloccen? or titanocen? or zirconocen? or hafnocen?)

L3 25265 POLYMERI?(S)(METALLOCCEN? OR TITANOCEN? OR ZIRCONOCEN? OR HAFNO  
N?)

=> s (ethylene or ethene)(4a)polymeri?

L4 73867 (ETHYLENE OR ETHENE)(4A) POLYMERI?

=> s 13 and 14

L5 10069 L3 AND L4

=> s 12 and 15

L6 163 L2 AND L5

S/N 10/585,199

=> s (slurry or particle(1a)form) (6a)polymeri?  
L7 15252 (SLURRY OR PARTICLE(1A) FORM) (6A) POLYMERI?

=> s 16 and 17  
L8 83 L6 AND L7

=> s (ethylene or ethene) (s)hydrogen  
L9 90594 (ETHYLENE OR ETHENE) (S) HYDROGEN

=> s 18 and 19  
L10 48 L8 AND L9

=> d 110 1-20 ibib abs

L10 ANSWER 1 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2007:198275 USPATFULL

TITLE: Polyethylene resins

INVENTOR(S): Barry, David Bruce, Melbourne, AUSTRALIA  
Diamond, Gary M., San Jose, CA, UNITED STATES  
Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
Ong, Shih-May Christine, Warren, NJ, UNITED STATES  
Wang, Chunming, Acton, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070173623	A1	20070726
	US 20080039606	A9	20080214
APPLICATION INFO.:	US 2007-711076	A1	20070227 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2004-475601, filed on 12 May 2004, GRANTED, Pat. No. US 7199195 A 371 of International Ser. No. WO 2002-US10326, filed on 4 Apr 2002		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-289173P	20010507 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	EXXONMOBIL CHEMICAL COMPANY, 5200 BAYWAY DRIVE, P.O. BOX 2149, BAYTOWN, TX, 77522-2149, US	
NUMBER OF CLAIMS:	38	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	1345	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides ethylene/ $\alpha$ -olefin copolymers exhibiting improved environmental stress cracking resistance properties, and methods for the production of the copolymers in a single reactor by means of a bimetallic catalyst including a Ziegler component and a metallocene component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 2 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2005:325065 USPATFULL

TITLE: PROCESSES FOR TRANSITIONING BETWEEN METALLOCENE AND ZIEGLER-NATTA POLYMERIZATION CATALYSTS

INVENTOR(S): Agapiou, Agapios Kyriacos, Humble, TX, UNITED STATES  
Hagerty, Robert Olds, La Porte, TX, UNITED STATES

Hussein, F. David, Cross Lane, WV, UNITED STATES  
 Muhle, Michael Elroy, Kingwood, TX, UNITED STATES  
 Pannell, Richard B., Kingwood, TX, UNITED STATES  
 Russell, Kathryn Ann, Seabroak, TX, UNITED STATES  
 Santana, Robert Lynn, Baytown, TX, UNITED STATES  
 Zhang, X. Simon, London, UNITED KINGDOM

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050282978	A1	20051222
	US 6995217	B2	20060207
APPLICATION INFO.:	US 2005-191585	A1	20050728 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2003-715813, filed on 18 Nov 2003, GRANTED, Pat. No. US 6949612		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-437697P	20021231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056, US	
NUMBER OF CLAIMS:	7	
EXEMPLARY CLAIM:	1	
LINE COUNT:	920	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	Processes for transitioning among polymerization catalyst systems, preferably catalyst systems that are incompatible with each other. In particular, the processes relate to transitioning from olefin polymerizations utilizing metallocene catalyst systems to olefin polymerizations utilizing traditional Ziegler-Natta catalyst systems.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 3 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2005:306628 USPATFULL

TITLE: Bimetallic catalyst for producing polyethylene resins with bimodal molecular weight distribution, its preparation and use

INVENTOR(S): Mink, Robert Ivan, Tarrytown, NY, UNITED STATES  
 Nowlin, Thomas Edward, West Windsor, NJ, UNITED STATES  
 Shirodkar, Pradeep P., Kingwood, TX, UNITED STATES  
 Diamond, Gary M., San Jose, CA, UNITED STATES  
 Barry, David Bruce, Melbourne, AUSTRALIA  
 Wang, Chunming, Tewksbury, MA, UNITED STATES  
 Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
 Ong, Shih-May Christine, Warren, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050267271	A1	20051201
	US 7129302	B2	20061031
APPLICATION INFO.:	US 2005-180455	A1	20050713 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2003-433228, filed on 29 May 2003, PENDING A 371 of International Ser. No. WO 2001-US31075, filed on 4 Oct 2001		

NUMBER	DATE
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S/N 10/585,199

PRIORITY INFORMATION: US 2000-250317P 20001130 (60)  
DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056, US  
NUMBER OF CLAIMS: 26  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 2 Drawing Page(s)  
LINE COUNT: 2131  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Bimetallic catalyst for producing polyethylene resins with a bimodal molecular weight distribution, its preparation and use. The catalyst is obtainable by a process which includes contacting a support material with an organomagnesium component and carbonyl-containing component. The support material so treated is contacted with a non-metallocene transition metal component to obtain a catalyst intermediate, the latter being contacted with an aluminoxane component and a metallocene component, This catalyst may be further activated with, e.g., alkylaluminum cocatalyst, and contacted, under polymerization conditions, with ethylene and optionally one or more comonomers, to produce ethylene homo- or copolymers with a bimodal molecular weight distribution and improved resin swell properties in a single reactor. These ethylene polymers are particularly suitable for blow molding applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 4 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2005:281744 USPATFULL  
TITLE: Olefin polymerisation process  
INVENTOR(S): Jacobsen, Grant Berent, Bouc Bel Air, FRANCE  
Kimberley, Brian Stephen, Bouche Du Rhone, FRANCE  
Mastroianni, Sergio, Martigues, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050245699	A1	20051103
	US 7271226	B2	20070918
APPLICATION INFO.:	US 2003-525730	A1	20030806 (10)
	WO 2003-GB3438		20030806
			20050225 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2002-358020	20020829
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
LINE COUNT:	547	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for the homopolymerisation of ethylene or the copolymerisation of ethylene and (a-olefins in a polymerisation reactor, said process carried out in the presence of a catalyst system comprising (a) a polymerisation catalyst and (b) an ionic activator is characterised in that an organometallic compound of a Group IIIB metal having at least one unit of formula: M.cedilla.0.cedilla.R or M.cedilla.0.cedilla.M where M is the Group IIIB metal and R is a

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hydrocarbyl group is added to the reactor. Preferred organometallic compounds include aluminoxanes and the process results in improved poison scavenging as well as advantages in activity profiles, catalyst activity and product characteristics. The process is particularly suitable for use with supported metallocene catalyst systems in the slurry or gas phase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 5 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2005:190265 USPATFULL

TITLE: Methods of forming a supported activated catalyst composition

INVENTOR(S): McCullough, Laughlin G., League City, TX, UNITED STATES  
Holtcamp, Matthew W., Huffman, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050165183	A1	20050728
	US 7060766	B2	20060613
APPLICATION INFO.:	US 2005-39533	A1	20050120 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2003-645817, filed on 21 Aug 2003, GRANTED, Pat. No. US 6900154		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-429114P	20021126 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056, US	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1105	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes of forming a supported activated catalyst composition and method of polymerization are disclosed, the process of forming the composition including combining a halogenated aromatic aluminum activator compound with a fluorinated support and a catalyst to form a supported activated catalyst composition. Also disclosed is a supported activated catalyst composition, comprising the reaction product of a fluorinated support, a perfluorophenyl aluminum activator and in one embodiment a metallocene catalyst. In one embodiment, the halogenated aromatic aluminum activator is represented by the formula  $R_{\text{sub}.n}\text{Al}(\text{ArHal})_{\text{sub}.3-n}$ , wherein ArHal is a halogenated aryl group, R is a monoanionic ligand, and n is 1 or 2.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 6 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2005:99681 USPATFULL

TITLE: Polymerization process and control of polymer composition properties

INVENTOR(S): Ehrman, Fred D., Houston, TX, UNITED STATES  
Shirodkar, Pradeep P., Kingwood, TX, UNITED STATES  
Davis, Mark Bradley, Hurricane, WV, UNITED STATES  
Zilker, Daniel P. JR., South Charleston, WV, UNITED STATES  
Shannon, Porter C., Seabrook, TX, UNITED STATES

S/N 10/585,199

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050085600	A1	20050421
	US 7238756	B2	20070703
APPLICATION INFO.:	US 2003-685607	A1	20031015 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056, US		
NUMBER OF CLAIMS:	40		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Page(s)		
LINE COUNT:	2400		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of controlling the flow index and/or molecular weight split of a polymer composition are disclosed. The method of producing a polymer composition in one embodiment comprises incorporating a high molecular weight polymer into a low molecular weight polymer to form the polymer composition in a single polymerization reactor in the presence of polymerizable monomers, a bimetallic catalyst composition and at least one control agent; wherein the control agent is added in an amount sufficient to control the level of incorporation of the high molecular weight polymer, the level of low molecular weight polymer, or both. Examples of control agents include alcohols, ethers, amines and oxygen.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 7 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2005:82227 USPATFULL

TITLE: Olefin polymerization process using triisobutylaluminum as a scavenger

INVENTOR(S): Wang, Shaotian, Mason, OH, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050070675	A1	20050331
	US 6903170	B2	20050607
APPLICATION INFO.:	US 2003-673302	A1	20030929 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	LYONDELL CHEMICAL COMPANY, 3801 WEST CHESTER PIKE, NEWTOWN SQUARE, PA, 19073		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
LINE COUNT:	397		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Ethylene and optional comonomers are polymerized using a supported metallocene catalyst, an alumoxane activator, and triisobutylaluminum (TIBAL). A silica support is first pretreated with a silane compound and then with an organoboron compound. The treated silica is then combined with a Group 4 metallocene complex and an alumoxane to generate a supported, activated catalyst. While it was previously thought that the particular support treatment technique used herein provided benefits only for polymerizations catalyzed by non-metallocene single-site complexes, it has now been found that similar benefits can be realized even with conventional metallocenes if TIBAL is selected as the scavenger.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

S/N 10/585,199

L10 ANSWER 8 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:310050 USPATFULL

TITLE: Polymerization process and control of polymer composition properties

INVENTOR(S): Ehrman, Fred D., Houston, TX, United States  
Shirodkar, Pradeep P., Kingwood, TX, United States  
Santana, Robert Lynn, Baytown, TX, United States  
Shannon, Porter C., Seabrook, TX, United States

PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6828395	B1	20041207
APPLICATION INFO.:	US 2003-685650		20031015 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Rabago, Roberto		
LEGAL REPRESENTATIVE:	Faulkner, Kevin M.		
NUMBER OF CLAIMS:	40		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	2610		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of controlling rheological properties of polymer compositions comprising at least one high molecular weight polymer and one low molecular weight polymer are disclosed. The polymer compositions are produced by polymerizing monomers in a single reactor using a bimetallic catalyst composition. A control agent such as, for example, an alcohol, ether, oxygen or amine is added to the reactor to control the rheological properties of the reactor. The polymerization takes place in the presence of rheological-altering compounds such as alkanes and aluminum alkyls. The control agents are added in an amount sufficient to counter the influences of the rheological-altering compounds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 9 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:268223 USPATFULL

TITLE: Supported metallocene catalyst system for olefin polymerization, method for making and using the same

INVENTOR(S): Atiqullah, Muhammad, Dhahran, SAUDI ARABIA  
Moman, Akhlaq, Riyadh, SAUDI ARABIA  
Akhtar, Muhammad Naseem, Dhahran, SAUDI ARABIA  
Abu-Raqabah, Atieh, Riyadh, SAUDI ARABIA  
Palackal, Syriac J., Riyadh, INDIA  
Al-Saleh, Muhammad A., Dhahran, SAUDI ARABIA  
Rahman, Faizur, Dhahran, SAUDI ARABIA  
Ibrahim, Muhammad, Riyadh, SAUDI ARABIA  
Khan, Javaid H., Dhahran, SAUDI ARABIA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040209766	A1	20041021
	US 6908876	B2	20050621
APPLICATION INFO.:	US 2003-414615	A1	20030416 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	KRAMER LEVIN NAFTALIS & FRANKEL LLP, INTELLECTUAL		

S/N 10/585,199

PROPERTY DEPARTMENT, 919 THIRD AVENUE, NEW YORK, NY,  
10022

NUMBER OF CLAIMS: 20  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1123

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a supported catalyst system for olefin polymerization which comprises at least one metallocene component and a support of an inorganic oxide of silica, aluminum or a polymer containing hydroxyl groups. The support is modified with an organogermane and/or organotin compound. The inventive catalyst system produces minimal reactor fouling, has excellent productivity and good hydrogen responsiveness. The present invention also relates to a process for preparing the catalyst system and to the slurry/suspension or gas-phase polymerization of olefins using the catalytic system, optionally with a small amount of aluminoxane cocatalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 10 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:240436 USPATFULL  
TITLE: Polyethylene resine  
INVENTOR(S): Barry, David Bruce, Melbourne, AUSTRALIA  
Diamond, Gary M, San Jose, CA, UNITED STATES  
Fruitwala, Hitesh A, Houston, TX, UNITED STATES  
Christine Ong, Shih-May, Warren, NJ, UNITED STATES  
Wang, Chunming, Tewksbury, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040186251	A1	20040923
	US 7199195	B2	20070403
APPLICATION INFO.:	US 2004-475601	A1	20040512 (10)
	WO 2002-US10326		20020404

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-60289173	20010507
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	EXXONMOBIL CHEMICAL COMPANY, P O BOX 2149, BAYTOWN, TX, 77522-2149	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	1477	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides ethylene/ $\alpha$ -olefin copolymers exhibiting improved environmental stress cracking resistance properties, and methods for the production of the copolymers in a single reactor by means of a bimetallic catalyst including a Ziegler component and a metallocene component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 11 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:233942 USPATFULL  
TITLE: Processes for transitioning between metallocene  
and ziegler-natta polymerization catalysts  
INVENTOR(S): Agapiou, Agapios Kyriacos, Humble, TX, UNITED STATES

Hagerty, Robert Olds, La Porte, TX, UNITED STATES  
 Hussein, F. David, Cross Lanes, WV, UNITED STATES  
 Muhle, Michael Elroy, Kingwood, TX, UNITED STATES  
 Pannell, Richard B., Kingwood, TX, UNITED STATES  
 Russell, Kathryn Ann, Seabrook, TX, UNITED STATES  
 Santana, Robert Lynn, Baytown, TX, UNITED STATES  
 Zhang, X. Simon, London, UNITED KINGDOM

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040181016	A1	20040916
	US 6949612	B2	20050927
APPLICATION INFO.:	US 2003-715813	A1	20031118 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-437697P	20021231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056	
NUMBER OF CLAIMS:	21	
EXEMPLARY CLAIM:	1	
LINE COUNT:	975	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for transitioning among polymerization catalyst systems, preferably catalyst systems that are incompatible with each other. In particular, the processes relate to transitioning from olefin polymerizations utilizing metallocene catalyst systems to olefin polymerizations utilizing traditional Ziegler-Natta catalyst systems.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 12 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:185190 USPATFULL  
 TITLE: Processes for transitioning between chrome-based and mixed polymerization catalysts  
 INVENTOR(S): Terry, Kersten Anne, Charleston, WV, UNITED STATES  
 Goode, Mark Gregory, Hurricane, WV, UNITED STATES  
 Wentz, Daniel E., Houston, TX, UNITED STATES  
 Chirillo, John, Friendswood, TX, UNITED STATES  
 Mawson, Simon, Orlando, FL, UNITED STATES  
 Cevallos-Candau, Jose Fernando, Charleston, WV, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040143076	A1	20040722
	US 6841630	B2	20050111
APPLICATION INFO.:	US 2003-715651	A1	20031117 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-437204P	20021231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Osborne K. McKinney, Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056	
NUMBER OF CLAIMS:	19	

S/N 10/585,199

EXEMPLARY CLAIM: 1

LINE COUNT: 1495

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for transitioning among polymerization catalyst systems, preferably catalyst systems, which are incompatible with each other. Particularly, processes for transitioning among olefin polymerization reactions utilizing silyl-chromate catalyst systems and metallocene catalyst systems.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 13 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:133775 USPATFULL

TITLE: Methods of forming a supported activated catalyst composition

INVENTOR(S): McCullough, Laughlin G., League City, TX, UNITED STATES  
Holtcamp, Matthew W., Huffman, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040102312	A1	20040527
	US 6900154	B2	20050531
APPLICATION INFO.:	US 2003-645817	A1	20030821 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-429114P	20021126 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Univation Technologies, LLC, Suite 1950, 5555 San Felipe, Houston, TX, 77056	
NUMBER OF CLAIMS:	33	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1178	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes of forming a supported activated catalyst composition and method of polymerization are disclosed, the process of forming the composition including combining a halogenated aromatic aluminum activator compound with a fluorinated support and a catalyst to form a supported activated catalyst composition. Also disclosed is a supported activated catalyst composition, comprising the reaction product of a fluorinated support, a perfluorophenyl aluminum activator and in one embodiment a metallocene catalyst. In one embodiment, the halogenated aromatic aluminum activator is represented by the formula  $R_{3-n}Al(ArHal)_n$ , wherein  $ArHal$  is a halogenated aryl group,  $R$  is a monoanionic ligand, and  $n$  is 1 or 2.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 14 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2004:64217 USPATFULL

TITLE: Bimetallic catalyst for producing polyethylene resins with bimodal molecular weight distribution, its preparation and use

INVENTOR(S): Mink, Robert Ivan, Tarrytown, NY, UNITED STATES  
Nowlin, Thomas Edward, West Windsor, NY, UNITED STATES  
Shirodkar, Pradeep P., Kingwood, TX, UNITED STATES  
Diamond, Gary M., San Jose, CA, UNITED STATES  
Barry, David Bruce, Melbourne, AUSTRALIA  
Wang, Chunming, Tewksbury, MA, UNITED STATES

S/N 10/585,199

Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
Ong, Shih-May Christine, Warren, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040048736	A1	20040311
	US 6964937	B2	20051115
APPLICATION INFO.:	US 2003-433228	A1	20030529 (10)
	WO 2001-US31075		20011004

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-60250317	20001130
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ExxonMobil Chemical Company, Law Technology, PO Box 2149, Baytown, TX, 77522-2149	
NUMBER OF CLAIMS:	50	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Page(s)	
LINE COUNT:	2325	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Bimetallic catalyst for producing polyethylene resins with a bimodal molecular weight distribution, its preparation and use. The catalyst is obtainable by a process which includes contacting a support material with an organomagnesium component and carbonyl-containing component. The support material so treated is contacted with a non-metallocene transition metal component to obtain a catalyst intermediate, the latter being contacted with an aluminoxane component and a metallocene component. This catalyst may be further activated with, e.g., alkylaluminum cocatalyst, and contacted, under polymerization conditions, with ethylene and optionally one or more comonomers, to produce ethylene homo- or copolymers with a bimodal molecular weight distribution and improved resin swell properties in a single reactor. These ethylene polymers are particularly suitable for blow molding applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 15 OF 48 USPATFULL on STN  
ACCESSION NUMBER: 2003:319476 USPATFULL  
TITLE: Supported dual transition metal catalyst systems  
INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030225225	A1	20031204
	US 6686306	B2	20040203
APPLICATION INFO.:	US 2002-120317	A1	20020410 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-287602P	20010430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Robert A. Maggio, W. R. Grace & Co.-Conn., Patent Dept., 7500 Grace Drive, Columbia, MD, 21044-4098	
NUMBER OF CLAIMS:	81	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Page(s)	



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LINE COUNT: 5200

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A coordination catalyst system comprising at least one metallocene or constrained geometry pre-catalyst transition metal compound, (e.g., rac-ethylene bis(indenyl)zirconium dichloride), at least one non-metallocene, non-constrained geometry, bidentate transition metal compound or tridentate transition metal compound (e.g., tridentate 2,6-diacetylpyridine-bis(2,4,6-trimethylaniline)FeCl.sub.2) at least one support-activator (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound (e.g., triisobutyl aluminum), in controlled amounts, and methods for preparing the same. The resulting dual transition metal catalyst system is suitable for addition polymerization of ethylenically and acetylenically unsaturated monomers into polymers; for example, polymers having a broad molecular weight distribution, Mw/Mn, and good polymer morphology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 16 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2003:289049 USPATFULL

TITLE: Method of making supported transition metal polymerization catalysts and compositions formed therefrom

INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030203808	A1	20031030
	US 6927261	B2	20050809
APPLICATION INFO.:	US 2002-120291	A1	20020410 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-287607P	20010430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Howard J. Troffkin, W. R. Grace & Co.-Conn., Patent Dept., 7500 Grace Drive, Columbia, MD, 21044-4098	
NUMBER OF CLAIMS:	67	
EXEMPLARY CLAIM:	1	
LINE COUNT:	3570	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a novel one-step method for forming a supported catalyst complex of high activity by substantially simultaneously contacting a bidentate or tridentate ligand forming compound, a transition metal compound and a Lewis acid support-activator agglomerate. The catalyst can be formed prior to polymerization of olefins or within the polymerization reaction zone.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 17 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2003:244794 USPATFULL

TITLE: Metallocene and constrained geometry catalyst systems employing agglomerated metal oxide/clay support-activator and method of their preparation

INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES  
Denton, Dean Alexander, Baltimore, MD, UNITED STATES  
Carney, Michael John, Eldersburg, MD, UNITED STATES

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	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030171207	A1	20030911
APPLICATION INFO.:	US 2003-382742	A1	20030306 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-432008, filed on 1 Nov 1999, GRANTED, Pat. No. US 6559090		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Robert A. Maggio, W. R. Grace & Co.-Conn., Patent Dept., 7500 Grace Drive, Columbia, MD, 21044-4098		
NUMBER OF CLAIMS:	70		
EXEMPLARY CLAIM:	1		
LINE COUNT:	3286		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a coordinating catalyst system comprising at least one metallocene or constrained geometry pre-catalyst transition metal compound, (e.g., di-(n-butylcyclopentadienyl) zirconium dichloride), at least one support-activator (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound (e.g., triisobutyl aluminum), in controlled amounts, and methods for preparing the same. The resulting catalyst system exhibits enhanced activity for polymerizing olefins and yields polymer having very good morphology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 18 OF 48 USPATFULL on STN  
ACCESSION NUMBER: 2003:188318 USPATFULL  
TITLE: Coordination catalyst systems employing chromium support-agglomerate and method of their preparation  
INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES  
Denton, Dean Alexander, Baltimore, MD, UNITED STATES  
Glemza, Rimantas, Baltimore, MD, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030130111	A1	20030710
	US 6946420	B2	20050920
APPLICATION INFO.:	US 2002-120314	A1	20020410 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-287600P	20010430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Howard J. Troffkin, W. R. Grace & Co.-Conn., Patent Dept., 7500 Grace Drive, Columbia, MD, 21044-4098	
NUMBER OF CLAIMS:	62	
EXEMPLARY CLAIM:	1	
LINE COUNT:	4128	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a coordinating catalyst system comprising at least one pre-catalyst selected from late transition metal bidentate or tridentate ligand containing compounds, at least one support-agglomerate having chromium immobilized thereto (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound in controlled amounts, and methods for preparing the same. The resulting catalyst system exhibits enhanced activity for

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polymerizing olefins and yields polymer products having very good morphology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 19 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2003:140856 USPATFULL

TITLE: Coordination catalyst systems employing agglomerated metal oxide/clay support-activator and method of their preparation

INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES  
Carney, Michael John, Eldersburg, MD, UNITED STATES  
Denton, Dean Alexander, Baltimore, MD, UNITED STATES

PATENT ASSIGNEE(S): W. R. Grace & Co.-Conn. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030096698	A1	20030522
APPLICATION INFO.:	US 2002-113761	A1	20020401 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-431771, filed on 1 Nov 1999, GRANTED, Pat. No. US 6399535		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Robert A. Maggio, W. R. Grace & Co.-Conn., Patent Dept., 7500 Grace Drive, Columbia, MD, 21044-4098		
NUMBER OF CLAIMS:	64		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	7 Drawing Page(s)		
LINE COUNT:	3718		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a coordinating catalyst system comprising at least one bidentate or tridentate pre-catalyst transition metal compound, (e.g., 2,6-bis (2,4,6-trimethylaryl amino) pyridyl iron dichloride), at least one support-activator (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound (e.g., triisobutyl aluminum), in controlled amounts, and methods for preparing the same. The resulting catalyst system exhibits enhanced activity for polymerizing olefins and yields polymer having very good morphology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 20 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2003:127761 USPATFULL

TITLE: Silane-grafted materials for solid and foam applications

INVENTOR(S): Bambara, John D., Osterville, MA, UNITED STATES  
Kozma, Matthew L., Osterville, MA, UNITED STATES  
Hurley, Robert F., Centerville, MA, UNITED STATES

PATENT ASSIGNEE(S): Sentinel Products Corp., a New York corporation (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030087976	A1	20030508
APPLICATION INFO.:	US 2001-986776	A1	20011109 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2000-557261, filed on 24 Apr 2000, GRANTED, Pat. No. US 6316512 Continuation of Ser. No. US 1999-270583, filed on 16 Mar 1999, GRANTED, Pat. No. US 6103775 Division of Ser. No. US		

S/N 10/585,199

1996-749740, filed on 15 Nov 1996, GRANTED, Pat. No. US  
5883144 Continuation-in-part of Ser. No. US  
1994-308801, filed on 19 Sep 1994, ABANDONED

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: CANTOR COLBURN, LLP, 55 GRIFFIN ROAD SOUTH, BLOOMFIELD,  
CT, 06002

NUMBER OF CLAIMS: 20  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 3 Drawing Page(s)  
LINE COUNT: 2448  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB New cross-linked polymeric foam compositions, and methods for making the same, are provided. The new compositions utilize novel cross-linked polyolefin copolymers and show improvements in strength, toughness, flexibility, heat resistance and heat-sealing temperature ranges as compared to conventional low density polyethylene compositions. The new compositions also show processing improvements over linear low density polyethylene. The novel polyolefins, which are essentially linear, comprise ethylene polymerized with at least one alpha-unsaturated C3 to C20 olefinic comonomer, and optionally at least one C3 to C20 polyene, and exhibit, in an uncross-linked sense, a resin density in the range of about 0.86 g/cm.sup.3 to about 0.96 g/cm.sup.3, a melt index in the range of about 0.5 dg/min to about 100 dg/min, a molecular weight distribution in the range of from about 1.5 to about 3.5, and a composition distribution breadth index greater than about 45 percent. The polyolefins are silane-grafted to enhance the physical properties and processability of the resins. Slow silane-grafted materials exhibit enhanced physical and processing properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L10 ANSWER 21 OF 48 USPATFULL on STN  
ACCESSION NUMBER: 2003:123309 USPATFULL  
TITLE: Metallocene and constrained geometry catalyst systems  
employing agglomerated metal oxide/clay  
support-activator and method of their preparation  
INVENTOR(S): Shih, Keng-Yu, Columbia, MD, United States  
Denton, Dean Alexander, Baltimore, MD, United States  
Carney, Michael John, Eldersburg, MD, United States  
PATENT ASSIGNEE(S): W. R. Grace & Co.-Conn., Columbia, MD, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6559090	B1	20030506
APPLICATION INFO.:	US 1999-432008		19991101 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Bell, Mark L.		
ASSISTANT EXAMINER:	Pasterczyk, J.		
LEGAL REPRESENTATIVE:	Maggio, R. A.		
NUMBER OF CLAIMS:	75		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	3235		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a coordinating catalyst system comprising at least one metallocene or constrained geometry pre-catalyst transition metal compound, (e.g., di-(n-butylcyclopentadienyl)zirconium dichloride), at least one support-activator (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound (e.g., triisobutyl aluminum), in controlled amounts, and methods for preparing the same. The resulting catalyst system exhibits enhanced activity for polymerizing olefins and yields polymer having very good morphology. The support-activator is a layered material having a negative charge on its interlaminar surfaces and is sufficiently Lewis acidic to activate the transition metal compound for olefin polymerization.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 22 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2002:239125 USPATFULL  
 TITLE: Polymerization catalyst system comprising heterocyclic fused cyclopentadienide ligands  
 INVENTOR(S): Fisher, Richard Allen, Malvern, PA, United States  
 Temme, Rolf Bodo, Dormagen, GERMANY, FEDERAL REPUBLIC OF  
 PATENT ASSIGNEE(S): Exxon Mobil Chemical Patents Inc., Houston, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6451938	B1	20020917
APPLICATION INFO.:	US 1997-999214		19971229 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1997-806181, filed on 25 Feb 1997, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Wu, David W.		
ASSISTANT EXAMINER:	Rabago, R.		
LEGAL REPRESENTATIVE:	Runyan, Jr., Charles E.		
NUMBER OF CLAIMS:	21		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	1370		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a polymerization catalyst system comprising a catalytic complex formed by activating a transition metal compound which comprises a metal selected from group 3 through 10 of the periodic table, preferably from group 4, 5, or 6 of the periodic table, and a group 13, 15, or 16 heterocyclic fused cyclopentadienide ligand. In one embodiment the inventive transition metal compound is represented by the [L].sub.mM[A].sub.n(S).sub.o wherein M is a transition metal selected from groups 3 through 10 of the periodic table, and at least one of L is group 13, 15, or 16 heterocyclic fused cyclopentadienide ligand. Also disclosed is a polymerization process utilizing the catalyst systems of the invention. Ethylene polymerizations or copolymerizations with dimethyl (η<sup>5</sup>-pentamethylcyclopentadienyl)(1-azaindenyl) zirconium and bis(5-methyl-cyclopenta[b]thiophene) zirconium dichloride, activated by tris(pentafluorophenyl) boron and methylalumoxane, respectively, are illustrated.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L10 ANSWER 23 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2002:129906 USPATFULL

TITLE: Coordination catalyst systems employing agglomerated metal oxide/clay support-activator and method of their preparation

INVENTOR(S): Shih, Keng-Yu, Columbia, MD, United States  
Carney, Michael John, Eldersburg, MD, United States  
Denton, Dean Alexander, Baltimore, MD, United States

PATENT ASSIGNEE(S): W. R. Grace & Co.-Conn., Columbia, MD, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6399535	B1	20020604
APPLICATION INFO.:	US 1999-431771		19991101 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Bell, Mark L.		
ASSISTANT EXAMINER:	Pasterczyk, J.		
LEGAL REPRESENTATIVE:	Maggio, Robert A.		
NUMBER OF CLAIMS:	64		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	13 Drawing Figure(s); 7 Drawing Page(s)		
LINE COUNT:	3412		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a coordinating catalyst system comprising at least one bidentate or tridentate ligand containing pre-catalyst transition metal compound, (e.g., 2,6-bis (2,4,6-trimethylaryl amino)pyridyl iron dichloride), at least one support-activator (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound (e.g., triisobutyl aluminum), in controlled amounts, and methods for preparing the same. The resulting catalyst system exhibits enhanced activity for polymerizing olefins and yields polymer having very good morphology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 24 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2001:202691 USPATFULL

TITLE: Silane-grafted materials for solid and foam applications

INVENTOR(S): Bambara, John D., Osterville, MA, United States  
Kozma, Matthew L., Osterville, MA, United States  
Hurley, Robert F., Centerville, MA, United States  
PATENT ASSIGNEE(S): Sentinel Products Corp., Hyannis, MA, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6316512	B1	20011113
APPLICATION INFO.:	US 2000-557261		20000424 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-270583, filed on 16 Mar 1999, now patented, Pat. No. US 6103775 Division of Ser. No. US 1996-749740, filed on 15 Nov 1996, now patented, Pat. No. US 5883144 Continuation-in-part of Ser. No. US 1994-308801, filed on 19 Sep 1994, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Truong, Duc		

S/N 10/585,199

LEGAL REPRESENTATIVE: Fish & Richardson P.C.  
NUMBER OF CLAIMS: 35  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)  
LINE COUNT: 2427

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB New cross-linked polymeric foam compositions, and methods for making the same, are provided. The new compositions utilize novel cross-linked polyolefin copolymers and show improvements in strength, toughness, flexibility, heat resistance and heat-sealing temperature ranges as compared to conventional low density polyethylene compositions. The new compositions also show processing improvements over linear low density polyethylene. The novel polyolefins, which are essentially linear, comprise ethylene polymerized with at least one alpha-unsaturated C3 to C20 olefinic comonomer, and optionally at least one C3 to C20 polyene, and exhibit, in an uncross-linked sense, a resin density in the range of about 0.86 g/cm.<sup>sup.3</sup> to about 0.96 g/cm.<sup>sup.3</sup>, a melt index in the range of about 0.5 dg/min to about 100 dg/min, a molecular weight distribution in the range of from about 1.5 to about 3.5, and a composition distribution breadth index greater than about 45 percent. The polyolefins are silane-grafted to enhance the physical properties and processability of the resins. Slow silane-grafted materials exhibit enhanced physical and processing properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 25 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2001:148056 USPATFULL

TITLE: Method of catalyst transitions in olefin polymerizations

INVENTOR(S): Almquist, Vidar, Porsgrunn, Norway  
Aastad, Tone, Stathelle, Norway  
Melaen, Ingrid Sorum, Skjelsvik, Norway  
Hokkanen, Harri, Helsinki, Finland  
Kallio, Kalle, Gammelby, Finland

PATENT ASSIGNEE(S): Borealis A/S, Lyngby, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6284849	B1	20010904
	WO 9732905		19970912
APPLICATION INFO.:	US 1999-142402		19990111 (9)
	WO 1997-NO65		19970305
			19990111 PCT 371 date
			19990111 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	NO 1996-898	19960305
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Wu, David W.	
ASSISTANT EXAMINER:	Harlan, R.	
LEGAL REPRESENTATIVE:	Scully, Scott, Murphy & Presser	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 6 Drawing Page(s)	
LINE COUNT:	594	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for transitioning between two different catalysts in olefin

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polymerizations, a first catalyst and a second catalyst, comprising the steps of: discontinuing the feed of the first catalyst into the polymerization reactor, and introducing the second catalyst into the reactor, wherein the transition is performed between a chromium-based catalyst and a metallocene catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 26 OF 48 USPATFULL on STN

ACCESSION NUMBER: 2000:105958 USPATFULL

TITLE: Silane-grafted materials for solid and foam applications

INVENTOR(S): Bambara, John D., Osterville, MA, United States  
Kozma, Matthew L., Osterville, MA, United States  
Hurley, Robert F., Centerville, MA, United States

PATENT ASSIGNEE(S): Sentinel Products Corp., Hyannis, MA, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6103775		20000815
APPLICATION INFO.:	US 1999-270583		19990316 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-749740, filed on 15 Nov 1996, now patented, Pat. No. US 5883144 which is a continuation-in-part of Ser. No. US 1994-308801, filed on 19 Sep 1994, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Truong, Duc		
LEGAL REPRESENTATIVE:	Fish & Richardson P.C.		
NUMBER OF CLAIMS:	34		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	2441		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB New cross-linked polymeric foam compositions, and methods for making the same, are provided. The new compositions utilize novel cross-linked polyolefin copolymers and show improvements in strength, toughness, flexibility, heat resistance and heat-sealing temperature ranges as compared to conventional low density polyethylene compositions. The new compositions also show processing improvements over linear low density polyethylene. The novel polyolefins, which are essentially linear, comprise ethylene polymerized with at least one alpha-unsaturated C3 to C20 olefinic comonomer, and optionally at least one C3 to C20 polyene, and exhibit, in an uncross-linked sense, a resin density in the range of about 0.86 g/cm.sup.3 to about 0.96 g/cm.sup.3, a melt index in the range of about 0.5 dg/min to about 100 dg/min, a molecular weight distribution in the range of from about 1.5 to about 3.5, and a composition distribution breadth index greater than about 45 percent. The polyolefins are silane-grafted to enhance the physical properties and processability of the resins. Slow silane-grafted materials exhibit enhanced physical and processing properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 27 OF 48 USPATFULL on STN

ACCESSION NUMBER: 1999:163621 USPATFULL

TITLE: Bimetallic catalysts for ethylene polymerization reactions activated with paraffin-soluble alkylalumoxanes



S/N 10/585,199

INVENTOR(S): Kissin, Yury V., East Brunswick, NJ, United States  
Mink, Robert I., Warren, NJ, United States  
Nowlin, Thomas E., West Windsor, NJ, United States  
PATENT ASSIGNEE(S): Mobil Oil Corporation, Fairfax, VA, United States (U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6001766		19991214
APPLICATION INFO.:	US 1997-998146		19971224 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Bell, Mark L.		
ASSISTANT EXAMINER:	Pasterczyk, J.		
LEGAL REPRESENTATIVE:	Cuomo, Lori F., Santini, Dennis P.		
NUMBER OF CLAIMS:	15		
EXEMPLARY CLAIM:	1		
LINE COUNT:	711		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Catalyst compositions for homopolymerization and copolymerization of ethylene which comprise two transition metal compounds, one of them a cyclopentadienyl complex of a transition metal and another a non-metallocene derivative of a transition metal are described. The catalysts are activated by alkylalumoxanes that are soluble in non-aromatic hydrocarbons. Bimetallic catalysts of this invention are suitable for the manufacture of ethylene homopolymers and copolymers with broad bimodal molecular weight distributions. The alkyl alumoxanes have at least one [AR(R)--O--] repeating group in which R is an alkyl group of at least two carbon atoms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 28 OF 48 USPATFULL on STN

ACCESSION NUMBER: 1999:34045 USPATFULL

TITLE: Silane-grafted materials for solid and foam applications

INVENTOR(S): Bambara, John D., Osterville, MA, United States  
Kozma, Matthew L., Osterville, MA, United States  
Hurley, Robert F., Centerville, MA, United States

PATENT ASSIGNEE(S): Sentinel Products Corp., Hyannis, MA, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5883144		19990316
APPLICATION INFO.:	US 1996-749740		19961115 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-308801, filed on 19 Sep 1994, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Truong, Duc		
LEGAL REPRESENTATIVE:	Fish & Richardson P.C.		
NUMBER OF CLAIMS:	47		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	2553		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB New cross-linked polymeric foam compositions, and methods for making the same, are provided. The new compositions utilize novel cross-linked polyolefin copolymers and show improvements in strength, toughness,

flexibility, heat resistance and heat-sealing temperature ranges as compared to conventional low density polyethylene compositions. The new compositions also show processing improvements over linear low density polyethylene. The novel polyolefins, which are essentially linear, comprise ethylene polymerized with at least one alpha-unsaturated C3 to C20 olefinic comonomer, and optionally at least one C3 to C20 polyene, and exhibit, in an uncross-linked sense, a resin density in the range of about 0.86 g/cm.<sup>3</sup> to about 0.96 g/cm.<sup>3</sup>, a melt index in the range of about 0.5 dg/min to about 100 dg/min, a molecular weight distribution in the range of from about 1.5 to about 3.5, and a composition distribution breadth index greater than about 45 percent. The polyolefins are silane-grafted to enhance the physical properties and processability of the resins. Slow silane-grafted materials exhibit enhanced physical and processing properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 29 OF 48 USPATFULL on STN

ACCESSION NUMBER: 1998:119094 USPATFULL

TITLE: Catalyst compositions and process for preparing polyolefins

INVENTOR(S): McNally, John Paul, Berkshire, United Kingdom

PATENT ASSIGNEE(S): BP Chemicals Limited, United Kingdom (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5814574		19980929
APPLICATION INFO.:	US 1996-689191		19960805 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. 179933, filed on 11 Jan 1994, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	GB 9300934	19930119
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Beck, Shrive	
ASSISTANT EXAMINER:	Meeks, Timothy	
LEGAL REPRESENTATIVE:	Brooks Haidt Haffner & Delahunty	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	716	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A catalyst composition comprising at least one metallocene complex of general formula I or II ##STR1## wherein R is a univalent or divalent 1-20c hydrocarbyl, or a 1-20c hydrocarbyl containing substituent oxygen, silicon, phosphorus, nitrogen or sulphur atoms with the proviso that at least one R group contains a lewis base functionality and when there are two or more R groups present they may be the same or different, and when R is divalent it is directly attached to M and replaces a Y ligand, and wherein M is a Group IVA metal,

Y is a univalent anionic ligand

X is an organic group containing a cyclopentadienyl nucleus and for formula I

n is an integer of 1 to 10

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x is either 1 or 2, and for formula II,

n, m and l are integers or 0 such that  $n + m + l \geq 1$ ,  $p = 0-2$ , and

z is a c.sub.1 to c.sub.4 alkylene radical or a dialkyl germanium or silicon or an alkyl phosphine or amine radical or bis-dialkylsilyl or bis-dialkylgermanyl containing hydrocarbyl groups having 1 to 4 carbon atoms bridging the cyclopentadienyl nuclei.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 30 OF 48 USPATFULL on STN

ACCESSION NUMBER: 1998:69124 USPATFULL

TITLE: Catalyst compositions and process for preparing polyolefins

INVENTOR(S): McNally, John Paul, Berkshire, United Kingdom

PATENT ASSIGNEE(S): BP Chemicals Limited, United Kingdom (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5767209		19980616
APPLICATION INFO.:	US 1997-902310		19970729 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1995-467726, filed on 6 Jun 1995, now abandoned which is a division of Ser. No. US 1994-179933, filed on 11 Jan 1994, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1993-934	19930119
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Nagumo, Mark	
LEGAL REPRESENTATIVE:	Brooks Haidt Haffner & Delahunty	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	684	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Catalyst compositions comprising metallocene complexes having Lewis base functionality may be used for the preparation of polyolefins. Preferred complexes are zirconium complexes in which the Lewis base functionality is provided by ether or thioether groups.

The catalyst compositions may be supported on inorganic supports or on supports having polymerisation activity eg Ziegler catalysts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 31 OF 48 USPATFULL on STN

ACCESSION NUMBER: 97:24971 USPATFULL

TITLE: Catalyst for bimodal molecular weight distribution ethylene polymers and copolymers

INVENTOR(S): Mink, Robert I., Warren, NJ, United States

Nowlin, Thomas E., West Windsor, NJ, United States

Schregenberger, Sandra D., Neshanic, NJ, United States

Shirodkar, Pradeep P., Somerset, NJ, United States

Tsien, Grace O., Colonia, NJ, United States

PATENT ASSIGNEE(S): Mobil Oil Corporation, Fairfax, VA, United States (U.S.)

corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5614456		19970325
APPLICATION INFO.:	US 1994-333684		19941103 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-151664, filed on 15 Nov 1993, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Pal, Asok		
LEGAL REPRESENTATIVE:	Schneller, M. V., Keen, M. D.		
NUMBER OF CLAIMS:	16		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	692		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The interaction of silica, previously calcined at 600° C., with dibutylmagnesium (DBM), 1-butanol and titanium tetrachloride and a solution of methylalumoxane (MAO) and (BuCp).sub.2 ZrCl.sub.2 provides a catalyst that, in the absence of a trialkylaluminum (AlR.sub.3) cocatalyst, produces polyethylene with a bimodal MWD.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 32 OF 48 USPATFULL on STN

ACCESSION NUMBER:	97:12407 USPATFULL
TITLE:	Process and a catalyst for preventing reactor fouling
INVENTOR(S):	Nowlin, Thomas E., West Windsor, NJ, United States Lo, Frederick Y., Edison, NJ, United States Shinomoto, Ronald S., Norristown, PA, United States Shirodkar, Pradeep P., Somerset, NJ, United States
PATENT ASSIGNEE(S):	Mobil Oil Corporation, Fairfax, VA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5602067		19970211
APPLICATION INFO.:	US 1994-333685		19941103 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-229516, filed on 19 Apr 1994, now patented, Pat. No. US 5473028 which is a division of Ser. No. US 1992-997421, filed on 28 Dec 1992, now patented, Pat. No. US 5332706		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Caldarola, Glenn A.		
ASSISTANT EXAMINER:	Wood, Elizabeth D.		
LEGAL REPRESENTATIVE:	Schneller, Marina V.		
NUMBER OF CLAIMS:	44		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	1374		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A support containing methylalumoxane and derivatives thereof is described which is formed by an incipient impregnation technique. The most preferred support is silica. Incipient impregnation in accordance with the invention provides a supported alumoxane, methylalumoxane, which substantially eliminates the problem of fluidized bed reactor fouling when methylalumoxane is introduced into the reactor during its operation. In accordance with the invention, the process comprises

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providing methylalumoxane activated metallocene compound in particulate form as catalysts in fluidized bed gas phase operation.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 33 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2007:198275 USPAT2

TITLE: Polyethylene resins

INVENTOR(S): Barry, David Bruce, Melbourne, AUSTRALIA  
Diamond, Gary M., San Jose, CA, UNITED STATES  
Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
Ong, Shih-May Christine, Warren, NJ, UNITED STATES  
Wang, Chunming, Acton, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20080039606	A9	20080214
APPLICATION INFO.:	US 2007-711076	A1	20070224 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2004-475601, filed on 12 May 2004, GRANTED, Pat. No. US 7199195 A 371 of International Ser. No. WO 2002-US10326, filed on 4 Apr 2002		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-289173P	20010507 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	EXXONMOBIL CHEMICAL COMPANY, 5200 BAYWAY DRIVE, P.O. BOX 2149, BAYTOWN, TX, 77522-2149, US	
NUMBER OF CLAIMS:	38	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	1345	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides ethylene/ $\alpha$ -olefin copolymers exhibiting improved environmental stress cracking resistance properties, and methods for the production of the copolymers in a single reactor by means of a bimetallic catalyst including a Ziegler component and a metallocene component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 34 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2005:325065 USPAT2

TITLE: Processes for transitioning between metallocene and Ziegler-Natta polymerization catalysts

INVENTOR(S): Agapiou, Agapios Kyriacos, Humble, TX, UNITED STATES  
Hagerty, Robert Olds, La Porte, TX, UNITED STATES  
Hussein, F. David, Cross Lanes, WV, UNITED STATES  
Muhle, Michael Elroy, Kingwood, TX, UNITED STATES  
Pannell, Richard B., Kingwood, TX, UNITED STATES  
Russell, Kathryn Ann, Seabrook, TX, UNITED STATES  
Santana, Robert Lynn, Baytown, TX, UNITED STATES  
Zhang, X. Simon, London, UNITED KINGDOM

PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, UNITED STATES (U.S. corporation)

NUMBER	KIND	DATE
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S/N 10/585,199

PATENT INFORMATION: US 6995217 B2 20060207  
APPLICATION INFO.: US 2005-191585 20050728 (11)  
RELATED APPLN. INFO.: Division of Ser. No. US 2003-715813, filed on 18 Nov  
2003, Pat. No. US 6949612

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-437697P	20021231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Teskin, Fred	
LEGAL REPRESENTATIVE:	Faulkner, Kevin M.	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
LINE COUNT:	897	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for transitioning among polymerization catalyst systems, preferably catalyst systems that are incompatible with each other. In particular, the processes relate to transitioning from olefin polymerizations utilizing metallocene catalyst systems to olefin polymerizations utilizing traditional Ziegler-Natta catalyst systems.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 35 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2005:306628 USPAT2  
TITLE: Bimetallic catalyst for producing polyethylene resins with bimodal molecular weight distribution, its preparation and use  
INVENTOR(S): Mink, Robert Ivan, Tarrytown, NY, UNITED STATES  
Nowlin, Thomas Edward, West Windsor, NJ, UNITED STATES  
Shirodkar, Pradeep P., Kingwood, TX, UNITED STATES  
Diamond, Gary M., San Jose, CA, UNITED STATES  
Barry, David Bruce, Melbourne, AUSTRALIA  
Wang, Chunming, Tewksbury, MA, UNITED STATES  
Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
Ong, Shih-May Christine, Warren, NJ, UNITED STATES  
PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7129302	B2	20061031
APPLICATION INFO.:	US 2005-180455		20050713 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2003-433228, filed on 29 May 2003, Pat. No. US 6964937		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Lu, Caixia		
LEGAL REPRESENTATIVE:	Faulkner, Kevin M., Arechederra, Leandro		
NUMBER OF CLAIMS:	26		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	2127		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Bimetallic catalyst for producing polyethylene resins with a bimodal molecular weight distribution, its preparation and use. The catalyst is obtainable by a process which includes contacting a support material with an organomagnesium component and carbonyl-containing component. The

support material so treated is contacted with a non-metallocene transition metal component to obtain a catalyst intermediate, the latter being contacted with an aluminoxane component and a metallocene component, This catalyst may be further activated with, e.g., alkylaluminum cocatalyst, and contacted, under polymerization conditions, with ethylene and optionally one or more comonomers, to produce ethylene homo- or copolymers with a bimodal molecular weight distribution and improved resin swell properties in a single reactor. These ethylene polymers are particularly suitable for blow molding applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 36 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2005:281744 USPAT2

TITLE: Olefin polymerisation process

INVENTOR(S): Jacobsen, Grant Berent, Bouc Bel Air, FRANCE  
Kimberley, Brian Stephen, Bouche du Rhone, FRANCE  
Mastroianni, Sergio, Martigues, FRANCE

PATENT ASSIGNEE(S): Ineos Europe Limited, Hampshire, UNITED KINGDOM  
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7271226	B2	20070918
	WO 2004020488		20040311
APPLICATION INFO.:	US 2003-525730		20030806 (10)
	WO 2003-GB3438		20030806
			20050225 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2002-358020	20020829
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Rabago, Roberto	
LEGAL REPRESENTATIVE:	Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.	
NUMBER OF CLAIMS:	12	
EXEMPLARY CLAIM:	1	
LINE COUNT:	556	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for the homopolymerisation of ethylene or the copolymerisation of ethylene and (a-olefins in a polymerisation reactor, said process carried out in the presence of a catalyst system comprising (a) a polymerisation catalyst and (b) an ionic activator is characterised in that an organometallic compound of a Group IIIB metal having at least one unit of formula: M.cedilla.0.cedilla.R or M.cedilla.0.cedilla.M where M is the Group IIIB metal and R is a hydrocarbyl group is added to the reactor. Preferred organometallic compounds include aluminoxanes and the process results in improved poison scavenging as well as advantages in activity profiles, catalyst activity and product characteristics. The process is particularly suitable for use with supported metallocene catalyst systems in the slurry or gas phase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 37 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2005:190265 USPAT2

TITLE: Methods of forming a supported activated catalyst

composition  
INVENTOR(S): McCullough, Laughlin G., 114 Crystal Reef Dr., League  
City, TX, UNITED STATES 77573  
Holtcamp, Matthew W., 26935 Carol Dr., Huffman, TX,  
UNITED STATES 77336

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7060766	B2	20060613
APPLICATION INFO.:	US 2005-39533		20050120 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2003-645817, filed on 21 Aug 2003, Pat. No. US 6900154		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-429114P	20021126 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Lu, Caixia	
LEGAL REPRESENTATIVE:	Faulkner, Kevin M, Arechetterra, Leandro	
NUMBER OF CLAIMS:	29	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1156	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes of forming a supported activated catalyst composition and method of polymerization are disclosed, the process of forming the composition including combining a halogenated aromatic aluminum activator compound with a fluorinated support and a catalyst to form a supported activated catalyst composition. Also disclosed is a supported activated catalyst composition, comprising the reaction product of a fluorinated support, a perfluorophenyl aluminum activator and in one embodiment a metallocene catalyst. In one embodiment, the halogenated aromatic aluminum activator is represented by the formula  $R_{n-1}Al(ArHal)_n$ , wherein ArHal is a halogenated aryl group, R is a monoanionic ligand, and n is 1 or 2.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 38 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2005:99681 USPAT2

TITLE: Polymerization process and control of polymer composition properties

INVENTOR(S): Ehrman, Fred D., Houston, TX, UNITED STATES  
Shirodkar, Pradeep P., Kingwood, TX, UNITED STATES  
Davis, Mark Bradley, Hurricane, TX, UNITED STATES  
Zilker, Jr., Daniel P., South Charleston, WV, UNITED STATES

PATENT ASSIGNEE(S): Shannon, Porter C., Seabrook, TX, UNITED STATES  
Univation Technologies, LLC, Houston, TX, UNITED STATES  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7238756	B2	20070703
APPLICATION INFO.:	US 2003-685607		20031015 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Rabago, Roberto		
LEGAL REPRESENTATIVE:	Faulkner, Kevin M., Arechederra, III, Leandro		
NUMBER OF CLAIMS:	36		



S/N 10/585,199

EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)  
LINE COUNT: 2406

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of controlling the flow index and/or molecular weight split of a polymer composition are disclosed. The method of producing a polymer composition in one embodiment comprises incorporating a high molecular weight polymer into a low molecular weight polymer to form the polymer composition in a single polymerization reactor in the presence of polymerizable monomers, a bimetallic catalyst composition and at least one control agent; wherein the control agent is added in an amount sufficient to control the level of incorporation of the high molecular weight polymer, the level of low molecular weight polymer, or both. Examples of control agents include alcohols, ethers, amines and oxygen.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 39 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2005:82227 USPAT2  
TITLE: Olefin polymerization process using triisobutylaluminum as a scavenger  
INVENTOR(S): Wang, Shaotian, Mason, OH, UNITED STATES  
PATENT ASSIGNEE(S): Equistar Chemicals, LP, Houston, TX, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6903170	B2	20050607
APPLICATION INFO.:	US 2003-673302		20030929 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Wu, David W.		
ASSISTANT EXAMINER:	Lee, Rip A.		
LEGAL REPRESENTATIVE:	Schuchardt, Jonathan L.		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	393		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Ethylene and optional comonomers are polymerized using a supported metallocene catalyst, an alumoxane activator, and triisobutylaluminum (TIBAL). A silica support is first pretreated with a silane compound and then with an organoboron compound. The treated silica is then combined with a Group 4 metallocene complex and an alumoxane to generate a supported, activated catalyst. While it was previously thought that the particular support treatment technique used herein provided benefits only for polymerizations catalyzed by non-metallocene single-site complexes, it has now been found that similar benefits can be realized even with conventional metallocenes if TIBAL is selected as the scavenger.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 40 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2004:268223 USPAT2  
TITLE: Supported metallocene catalyst system for olefin polymerization, method for making and using the same  
INVENTOR(S): Atiqullah, Muhammad, Dhahran, SAUDI ARABIA  
Moman, Akhlaq, Riyadh, SAUDI ARABIA

Akhtar, Muhammad Naseem, Dhahran, SAUDI ARABIA  
 Abu-Raqabah, Atieh, Riyadh, SAUDI ARABIA  
 Palackal, Syriac J., Riyadh, SAUDI ARABIA  
 Al-Saleh, Muhammad A., Dhahran, SAUDI ARABIA  
 Rahman, Faizur, Dhahran, SAUDI ARABIA  
 Ibrahim, Muhammad, Riyadh, SAUDI ARABIA  
 Khan, Javaid H., Dhahran, SAUDI ARABIA  
 Saudi Basic Industries Corporation, SAUDI ARABIA  
 (non-U.S. corporation)

## PATENT ASSIGNEE(S):

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6908876	B2	20050621
APPLICATION INFO.:	US 2003-414615		20030416 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Lu, Caixia		
LEGAL REPRESENTATIVE:	Kramer Levin Naftalis & Frankel LLP		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	1172		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a supported catalyst system for olefin polymerization which comprises at least one metallocene component and a support of an inorganic oxide of silica, aluminum or a polymer containing hydroxyl groups. The support is modified with an organogermane and/or organotin compound. The inventive catalyst system produces minimal reactor fouling, has excellent productivity and good hydrogen responsiveness. The present invention also relates to a process for preparing the catalyst system and to the slurry/suspension or gas-phase polymerization of olefins using the catalytic system, optionally with a small amount of aluminoxane cocatalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 41 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2004:240436 USPAT2  
 TITLE: Polyethylene resins  
 INVENTOR(S): Barry, David Bruce, Melbourne, AUSTRALIA  
 Diamond, Gary M., San Jose, CA, UNITED STATES  
 Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
 Ong, Shih-May Christine, Warren, NJ, UNITED STATES  
 Wang, Chunming, Acton, MA, UNITED STATES  
 PATENT ASSIGNEE(S): ExxonMobil Chemical Patents Inc., Houston, TX, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 7199195	B2	20070403
	WO 2002090393		20021114
APPLICATION INFO.:	US 2002-475601		20020404 (10)
	WO 2002-US10326		20020404
			20040512 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-289173P	20010507 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	

S/N 10/585,199

PRIMARY EXAMINER: Rabago, Roberto  
NUMBER OF CLAIMS: 26  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)  
LINE COUNT: 1330

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides ethylene/ $\alpha$ -olefin copolymers exhibiting improved environmental stress cracking resistance properties, and methods for the production of the copolymers in a single reactor by means of a bimetallic catalyst including a Ziegler component and a metallocene component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 42 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2004:233942 USPAT2

TITLE: Processes for transitioning between metallocene and Ziegler-Natta polymerization catalysts

INVENTOR(S): Agapiou, Agapios Kyriacos, Humble, TX, UNITED STATES  
Hagerty, Robert Olds, La Porte, TX, UNITED STATES  
Hussein, F. David, Cross Lanes, WV, UNITED STATES  
Muhle, Michael Elroy, Kingwood, TX, UNITED STATES  
Pannell, Richard B., Kingwood, TX, UNITED STATES  
Russell, Kathryn Ann, Seabrook, TX, UNITED STATES  
Santana, Robert Lynn, Baytown, TX, UNITED STATES  
Zhang, X. Simon, London, UNITED KINGDOM

PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, UNITED STATES  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6949612	B2	20050927
APPLICATION INFO.:	US 2003-715813		20031118 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-437697P	20021231 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Teskin, Fred

LEGAL REPRESENTATIVE: McKinney, Osborne K., Faulkner, Kevin M.

NUMBER OF CLAIMS: 14

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)

LINE COUNT: 931

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for transitioning among polymerization catalyst systems, preferably catalyst systems that are incompatible with each other. In particular, the processes relate to transitioning from olefin polymerizations utilizing metallocene catalyst systems to olefin polymerizations utilizing traditional Ziegler-Natta catalyst systems.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 43 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2004:185190 USPAT2

TITLE: Processes for transitioning between chrome-based and mixed polymerization catalysts

INVENTOR(S): Terry, Kersten Anne, Charleston, WV, United States

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Goode, Mark Gregory, Hurricane, WV, United States  
Wente, Daniel E., Houston, TX, United States  
Chirillo, Jr., John, Friendswood, TX, United States  
Mawson, Simon, Orlando, FL, United States  
Cevallos-Candau, Jose Fernando, Charleton, WV, United States  
PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6841630	B2	20050111
APPLICATION INFO.:	US 2003-715651		20031117 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-437204P	20021231 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Teskin, Fred	
LEGAL REPRESENTATIVE:	Faulkner, Kevin M.	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1,14	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1488	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes for transitioning among polymerization catalyst systems, preferably catalyst systems, which are incompatible with each other. Particularly, processes for transitioning among olefin polymerization reactions utilizing silyl-chromate catalyst systems and metallocene catalyst systems.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 44 OF 48 USPAT2 on STN  
ACCESSION NUMBER: 2004:133775 USPAT2  
TITLE: Methods of forming a supported activated catalyst composition  
INVENTOR(S): McCullough, Laughlin G., League City, TX, UNITED STATES  
Holtcamp, Matthew W., Huffman, TX, UNITED STATES  
PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, UNITED STATES  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6900154	B2	20050531
APPLICATION INFO.:	US 2003-645817		20030821 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-429114P	20021126 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Lu, Caixia	
LEGAL REPRESENTATIVE:	Faulkner, Kevin M.	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	1097	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Processes of forming a supported activated catalyst composition and method of polymerization are disclosed, the process of forming the composition including combining a halogenated aromatic aluminum activator compound with a fluorinated support and a catalyst to form a supported activated catalyst composition. Also disclosed is a supported activated catalyst composition, comprising the reaction product of a fluorinated support, a perfluorophenyl aluminum activator and in one embodiment a metallocene catalyst. In one embodiment, the halogenated aromatic aluminum activator is represented by the formula  $R_{\text{sub}.n}Al(ArHal)_{\text{sub}.3-n}$ , wherein  $ArHal$  is a halogenated aryl group,  $R$  is a monoanionic ligand, and  $n$  is 1 or 2.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 45 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2004:64217 USPAT2

TITLE: Bimetallic catalyst for producing polyethylene resins with bimodal molecular weight distribution, its preparation and use

INVENTOR(S): Mink, Robert Ivan, Tarrytown, NY, UNITED STATES  
Nowlin, Thomas Edward, West Windsor, NJ, UNITED STATES  
Shirodkar, Pradeep P., Kingwood, TX, UNITED STATES  
Diamond, Gary M., San Jose, CA, UNITED STATES  
Barry, David Bruce, Melbourne, AUSTRALIA  
Wang, Chunming, Tewksbury, MA, UNITED STATES  
Fruitwala, Hitesh A., Houston, TX, UNITED STATES  
Ong, Shih-May Christine, Warren, NJ, UNITED STATES

PATENT ASSIGNEE(S): Univation Technologies, LLC, Houston, TX, UNITED STATES  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6964937	B2	20051115
	WO 2002044222		20020606
APPLICATION INFO.:	US 2003-433228		20010410 (10)
	WO 2001-US31075		20010410
			20030529 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-250317P	20001130 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Lu, Caixia	
LEGAL REPRESENTATIVE:	Faulkner, Kevin M.	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	2153	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Bimetallic catalyst for producing polyethylene resins with a bimodal molecular weight distribution, its preparation and use. The catalyst is obtainable by a process which includes contacting a support material with an organomagnesium component and carbonyl-containing component. The support material so treated is contacted with a non-metallocene transition metal component to obtain a catalyst intermediate, the latter being contacted with an aluminoxane component and a metallocene component. This catalyst may be further activated with, e.g., alkylaluminum cocatalyst, and contacted, under polymerization conditions, with ethylene and optionally one or more

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comonomers, to produce ethylene homo- or copolymers with a bimodal molecular weight distribution and improved resin swell properties in a single reactor. These ethylene polymers are particularly suitable for blow molding applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 46 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2003:319476 USPAT2  
TITLE: Supported dual transition metal catalyst systems  
INVENTOR(S): Shih, Keng-Yu, Columbia, MD, United States  
PATENT ASSIGNEE(S): W.R. Grace & Co.- Conn., Columbia, MD, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6686306	B2	20040203
APPLICATION INFO.:	US 2002-120317		20020410 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-287602P	20010430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Lu, Caixia	
LEGAL REPRESENTATIVE:	Maggio, Robert A.	
NUMBER OF CLAIMS:	81	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	4653	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A coordination catalyst system comprising at least one metallocene or constrained geometry pre-catalyst transition metal compound, (e.g., rac-ethylene bis(indenyl)zirconium dichloride), at least one non-metallocene, non-constrained geometry, bidentate transition metal compound or tridentate transition metal compound (e.g., tridentate 2,6-diacetylpyridine-bis(2,4,6-trimethylaniline)FeCl.sub.2), at least one support-activator (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound (e.g., triisobutyl aluminum), in controlled amounts, and methods for preparing the same. The resulting dual transition metal catalyst system is suitable for addition polymerization of ethylenically and acetylenically unsaturated monomers into polymers; for example, polymers having a broad molecular weight distribution, Mw/Mn, and good polymer morphology.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 47 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2003:289049 USPAT2  
TITLE: Method of making supported transition metal polymerization catalysts and compositions formed therefrom  
INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES  
PATENT ASSIGNEE(S): W. R. Grace & Co.-Conn., Columbia, MD, UNITED STATES  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6927261	B2	20050809

APPLICATION INFO.: US 2002-120291 20020410 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-287607P	20010430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Harlan, Robert D.	
LEGAL REPRESENTATIVE:	Troffkin, Howard J.	
NUMBER OF CLAIMS:	67	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	3580	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a novel one-step method for forming a supported catalyst complex of high activity by substantially simultaneously contacting a bidentate or tridentate ligand forming compound, a transition metal compound and a Lewis acid support-activator agglomerate. The catalyst can be formed prior to polymerization of olefins or within the polymerization reaction zone.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 48 OF 48 USPAT2 on STN

ACCESSION NUMBER: 2003:188318 USPAT2

TITLE: Coordination catalyst systems employing chromium support-agglomerate and method of their preparation

INVENTOR(S): Shih, Keng-Yu, Columbia, MD, UNITED STATES  
Denton, Dean Alexander, Baltimore, MD, UNITED STATES  
Glemza, Rimantas, Baltimore, MD, UNITED STATESPATENT ASSIGNEE(S): W. R. Grace & Co.-Conn, Columbia, MD, UNITED STATES  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6946420	B2	20050920
APPLICATION INFO.:	US 2002-120314		20020410 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-287600P	20010430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Choi, Ling-Siu	
LEGAL REPRESENTATIVE:	Troffkin, Howard	
NUMBER OF CLAIMS:	42	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)	
LINE COUNT:	3986	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to a coordinating catalyst system comprising at least one pre-catalyst selected from late transition metal bidentate or tridentate ligand containing compounds, at least one support-agglomerate having chromium immobilized thereto (e.g., spray dried silica/clay agglomerate), and optionally at least one organometallic compound in controlled amounts, and methods for preparing the same. The resulting catalyst system exhibits enhanced activity for polymerizing olefins and yields polymer products having very good morphology.

S/N 10/585,199

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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FILE 'USPATFULL, USPATOLD, USPAT2, CAPLUS, JAPIO' ENTERED AT 15:41:02 ON  
01 OCT 2008

L1 3 SEA ABB=ON PLU=ON (HYDROGEN(8A) DEACTIVAT?)(S)(METALLOCEN?  
OR TITANOCEN? OR ZIRCONOCEN? OR HAFNOCEN?)  
D L1 1-3 IBIB ABS  
D L1 1 IBIB HIT

FILE 'STNGUIDE' ENTERED AT 15:44:34 ON 01 OCT 2008

FILE 'USPATFULL, USPATOLD, USPAT2, CAPLUS, JAPIO' ENTERED AT 15:49:28 ON  
01 OCT 2008

L2 215 SEA ABB=ON PLU=ON DEACTIVAT?(8A)(METALLOCEN? OR TITANOCEN?  
OR ZIRCONOCEN? OR HAFNOCEN?)  
L3 25265 SEA ABB=ON PLU=ON POLYMERI?(S)(METALLOCEN? OR TITANOCEN? OR  
ZIRCONOCEN? OR HAFNOCEN?)  
L4 73867 SEA ABB=ON PLU=ON (ETHYLENE OR ETHENE)(4A) POLYMERI?  
L5 10069 SEA ABB=ON PLU=ON L3 AND L4  
L6 163 SEA ABB=ON PLU=ON L2 AND L5  
L7 15252 SEA ABB=ON PLU=ON (SLURRY OR PARTICLE(1A) FORM)(6A) POLYMERI?  
  
L8 83 SEA ABB=ON PLU=ON L6 AND L7  
L9 90594 SEA ABB=ON PLU=ON (ETHYLENE OR ETHENE)(S) HYDROGEN  
L10 48 SEA ABB=ON PLU=ON L8 AND L9  
D L10 1-20 IBIB ABS  
D L10 21-48 IBIB ABS

FILE HOME

FILE USPATFULL  
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 30 Sep 2008 (20080930/PD)  
FILE LAST UPDATED: 30 Sep 2008 (20080930/ED)  
HIGHEST GRANTED PATENT NUMBER: US7430762  
HIGHEST APPLICATION PUBLICATION NUMBER: US20080235840  
CA INDEXING IS CURRENT THROUGH 29 Sep 2008 (20080929/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 30 Sep 2008 (20080930/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2008  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2008

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Patent Assignee fields where possible. Please see HELP CASDATA for more information on the availability of CAS indexing in this database.

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FILE COVERS 2001 TO PUBLICATION DATE: 30 Sep 2008 (20080930/PD)  
FILE LAST UPDATED: 30 Sep 2008 (20080930/ED)  
HIGHEST GRANTED PATENT NUMBER: US20070164820  
HIGHEST APPLICATION PUBLICATION NUMBER: US20080235414  
CA INDEXING IS CURRENT THROUGH 30 Sep 2008 (20080930/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 30 Sep 2008 (20080930/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2008  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2008

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FILE LAST UPDATED: 9 SEP 2008 <20080909/UP>  
MOST RECENT PUBLICATION DATE: 29 MAY 2008 <20080529/PD>

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LAST RELOADED: Sep 26, 2008 (20080926/UP).

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S/N 10/585,199

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